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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,413	01/28/2004	Marc R. Bernard	009584-0307533	2864
27498	7590	10/28/2005	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN LLP			PAYNE, DAVID C	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2638	

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/767,413

Applicant(s)

BERNARD ET AL.

Examiner

David C. Payne

Art Unit

2638

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 1-55 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang US 2002/0171895 A1 (hereinafter Chang) in view of Schulman US 5600632 A (Schulman).

Re claims 1,5, 9, 13, 18, 19, 21, 23, 24, 28, 32, 36, 42, 44, 46, 47, 49 and 50

Chang disclosed

an ONU LAN that provides automatic ranging in a passive optical network or PON. A PON with automatic ranging that comprises an optical line terminal (OLT) connected to a plurality of optical network units (ONUs), a new ONU to be connected to the OLT, and at least one OLT frame sent from the OLT to the ONUs. The OLT frame comprises an OLT preamble alerting a particular ONU of the plurality of ONUs of the OLT frame, an OLT start frame delimiter (SFD) indicating a start of the OLT frame, an OLT header identifying the OLT, an OLT ranging time stamp sending a ranging time clock to one of the ONUs, an OLT churning control for a churning function of the PON, an ONU number instructing the particular ONU to respond to the OLT with a ranging time stamp and a churning key, and an OLT end frame delimiter (EFD) indicating an end of the OLT frame. Upon receipt of the OLT frame from the OLT by the particular ONU of the plurality of ONUs, an ONU frame is sent back to the OLT. The ONU frame further comprises an ONU preamble alerting the OLT of the ONU frame, an ONU start frame delimiter (SFD) indicating a start of the ONU frame, an ONU header identifying the

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particular ONU, an ONU ranging time stamp responding to the ONU number, an ONU churning key responding to the ONU number, and an ONU end frame delimiter (EFD) indicating an end of the ONU frame. The ONU number in the ONU frame further comprises an ONU number preamble alerting the particular ONU of the ONU number, a start sub-frame delimiter (SSD) indicating a start of the ONU number, an ONU ID identifying the particular ONU, an automatic bandwidth adjustment beginning (ABAB), and an automatic bandwidth adjustment terminating (ABAT), see paragraph 0009.

Chang does not describe aggregation of the performance data as bins of information. Rather Chang disclosed tabulation of the round-trip time and the one-way trip time calculated for each ONU (e.g., ONU 1, ONU 2, ONU 3 and ONU 4) with respect to the OLT 100 in a PON. The tabulation is a result of the calculations in an empirical embodiment for the automatic ranging, see paragraph 0091. It would have been obvious to one of ordinary skill in the art at the time of invention to equate the prior art's tabulation with the applicant's bins as they both are abstractions for the ranging time of individual ONUs in the network. Furthermore, Schulman disclosed performance monitoring using bins, see col./lines: 8/19-24. It would have been obvious to one of ordinary skill in the art at the time of invention to use bins in the Chang invention. One is motivated as such since by breaking down the various counts into bins by source so that one can identify the source of particularly long latencies so that performance improvement investigations can be undertaken, see preceding passage.

Re claims 2, 3, 4, 17, 20, 25-27, 40, 41, 43, 48, 51, and 52-55  
the modified invention of Chang and Schulman disclosed a ranging initialization or reset of the counter, see paragraph 0016.

Re claims 6, 10, 14, 22, 29, 33, 37, and 45  
the modified invention of Chang and Schulman does not disclose a cyclic counter. It would have been obvious to one of ordinary skill in the art at the time of invention that cyclic counter could be used in place of a resetting counter. Cyclic counters are extremely well known in the art at useful for restarting a count without the need for a separate reset line.

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Re claims 7, 11, 15, 30, 34, and 38

the modified invention of Chang and Schulman does not disclose that the plurality of bins is equal to 32 bins. However, Chang disclosed that an ONU number is encoded within a 16-byte field used to instruct a particular ONU (out of the plurality of ONUs connected to the OLT), see paragraph 0079. It would have been obvious to one of ordinary skill in the art at the time of invention that a 16-byte field is large enough to encode 32 values. Furthermore, lacking any criticality, the claimed value is not patentable over the prior art.

Re claims 8, 12, 16, 31, 35 and 39

the modified invention of Chang and Schulman does not disclose that the performance interval is 15 minutes. However, Chang disclosed that an ONU ranging time is encoded within a 4-byte field, see paragraph 0069. It would have been obvious to one of ordinary skill in the art at the time of invention that a 4-byte field is large enough to encode a 15 minute. Furthermore, lacking any criticality, the claimed value is not patentable over the prior art.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp

  
David C. Payne  
Patent Examiner  
AU 2633